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(54) **LUMINESCENT MATERIALS**

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(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

The invention provides photoluminescent compounds, reactive intermediates used to synthesize photoluminescent compounds, and methods of synthesizing and using photoluminescent compounds, among others. The compounds comprise phenanthrene and dipyridylamine moieties. The compounds are colored and fluoresce upon excitation. Methods are included for using the compounds to detect metal ions by spectral changes of wavelength shift or a change in fluorescence intensity. Compositions in polymers and solvents are provided for use as a film, paint, reflective surfaces, and electroluminescent devices are provided.

24 Claims, 2 Drawing Sheets